

Remarks/Arguments

These submissions are filed in response to the Examiner's Report of April 6, 2006, a response to which is due to be filed by July 6, 2006. In the Applicant's respectful submission, no fees are due in connection with the filing of this response. If the Applicant is mistaken, the Commissioner is hereby authorized in this and subsequent replies to deduct any fees and credit any overpayments to Deposit Account No. 13-2400.

Claims 1, 3, 11, 14, and 17 have been amended. Claims 2, 12, 13, 15, and 18 are cancelled without prejudice.

The Examiner objected to paragraph 0032 of the specification and pointed to a typographical error. Paragraph 0032 has been amended to correct the error pointed out by the Examiner.

In the Examiner's Report of April 6, 2006, the Examiner rejected independent claims 1 and 14 under 35 U.S.C. 103(a) as being obvious having regard to US Patent No. 5,894,308 to Isaacs ("Isaacs") in view of US Patent Publication No. 2002/0158880 to Williams et al. ("Williams"). The Examiner further rejected independent claims 11 and 17 and dependent claims 2-5, 12-13, 15, and 18 under 35 U.S.C. 103(a) as being obvious having regard to Isaacs in view of Williams and in further view of WEB publication (<http://www.eprg.org/research/SVG/flash2svg/>) by Probets ("Probets"). The Applicant has carefully considered the Examiner's rejections. The independent claims have been amended to incorporate the features of the respective cancelled dependent claims. The claims are believed to be allowable for the reasons that follow.

The Applicant respectfully submits that no suggestion or motivation, in the references themselves or in the knowledge generally available to one of ordinary skill in the art, would lead one of ordinary skill in the art to combine and/or modify the references as suggested by the Examiner. Second, the Applicant respectfully submits

that the prior art references fail to teach or suggest all the claim limitations found in the independent claims of the present application.

The claimed subject matter is concerned with converting edge record based graphics to polygon based graphics for more efficient delivery to mobile devices over a wireless network. In one embodiment, this allows users of wireless mobile devices to view flash files, in either animated or unanimated converted formats. The method disclosed by the claimed subject matter saves bandwidth and requires less processing power from the mobile device in order to view the graphics.

Specifically, claim 1 recites a method for converting graphic object data that defines a graphic object, comprising steps of: converting first graphic object data defining the graphic object from an edge record based format to the path format, the edge record based format including a plurality of edge records each defining an edge of the graphic object, the edge records including information associating the defined edges with fill styles that the edges border against; and (b) converting the graphic object data from a path format to a second format, the path format including path elements that are each associated with a fill style and define one or more polygon shapes at least partially filled with the associated fill style, the path elements collectively defining the graphic object. The conversion includes (i) redefining the polygon shapes defined by the path elements as groups of triangles; and (ii) combining at least some triangles in the groups of triangles into further polygon shapes that fall within predetermined complexity thresholds.

In contrast, the Isaacs reference discloses a method for interactively adjusting the number of polygons in a 3D graphic object by receiving interactive input from a user through a user interface. The method disclosed by Isaacs reduces the polygon count in 3D object models, and as a result the quality of the image, based on a desired level of detail. The method disclosed by Isaacs is intended to be used by graphics designers in an authoring environment, such as Silicon Graphics WebSpace Author,

when designing 3D images.

Isaacs fails to teach or suggest converting first graphic object data defining the graphic object from an edge record based format to a path format. Further, Isaacs fails to teach or suggest: (i) redefining the polygon shapes defined by the path elements as groups of triangles; and (ii) combining at least some of triangles in the groups of triangles into further polygon shapes that fall within predetermined complexity thresholds. The Examiner seems to suggest that the polygon reduction algorithm employed by Isaacs that chooses polygons for removal based on edge length is analogous to the complexity thresholds as recited in claim 1. In contrast, an edge (i.e., line) length is defined by a beginning point and an end point, regardless of the length of the edge, and is therefore unrelated to polygon complexity. Isaacs employs this edge length based algorithm on 3D objects because the method of Isaacs results in a reduced level of detail in the 3D object and removal of smaller polygons is expected to be less visible in 3D objects viewed from a distance as opposed to the removal of larger polygons. In contrast, the method recited by the claims does not serve to reduce the quality of 3D objects. Isaacs fails to teach or suggest all of the features recited in claim 1. Additionally, the Isaacs reference provides no motivation to apply the teachings of Isaacs (i.e., an interactive method) to the subject area of the claimed subject matter. Isaacs nowhere suggests the adoption of his interactive technique to the field of the claimed subject matter, namely automated graphics conversion for efficient delivery to mobile devices. Accordingly, in the Applicant's respectful submission, the Isaacs reference constitutes non-analogous art and is not a proper reference for citation under 35 U.S.C. § 103(a).

The Examiner attempts to cure the deficiencies of Isaacs with reference to Williams and states at paragraph 16 of the official action that the motivation to combine Williams with Isaacs is to allow a more realistic rendering of a 3D object. Again, this runs completely contrary to one of objectives of Isaacs, namely to provide a reduced level of detail in the 3D object through the removal of smaller polygons expected to be less visible in 3D objects viewed from a distance. Williams concerns a method and apparatus for modelling 3D objects using texture maps and geometric models, beginning with colored

scan data generated using conventional techniques for scanning physical objects (see, for example, Paragraph 0009, Summary). As such, Williams concerns the conversion of highly accurate source data into low complexity geometric models and compensates for the loss of detail caused by the low complexity geometric models through the use of texture maps. This approach runs completely contrary to the teachings of Isaacs, where a lower level of detail resulting from a reduced polygon count is expected and accepted, and no attempt is made to compensate for the lower level of detail through the use of texture maps. In fact, Isaacs nowhere teaches or suggests the use of texture maps. The introduction of texture maps into the teachings of Isaacs would not sufficiently lower the rendering time of an image, which is the objective that Isaacs seeks to achieve (see, for example, Background section). Therefore, it is submitted that Williams explicitly teaches away from the subject matter disclosed by Isaacs. Accordingly, in the Applicant's respectful submission, the Williams reference constitutes non-analogous art to the Isaacs reference and the combination is not proper for citation under 35 U.S.C. § 103(a).

Additionally, Williams fails to teach or suggest converting first graphic object data defining the graphic object from an edge record based format to a path format. It is also submitted that Williams fails to teach or suggest combining at least some of triangles in the groups of triangles into further polygon shapes that fall within predetermined complexity thresholds. The Williams reference provides no motivation to apply the teachings of Williams to the subject area of the claimed subject matter. Williams nowhere suggests the adoption of his technique to the field of the claimed subject matter, namely automated graphics conversion for efficient delivery to mobile devices.

The Examiner further cites the Probets reference in an attempt to find support for yet another aspect of the presently claimed subject matter. The Probets reference is an engineering document describing various approaches for conversion between SWF and SVG file formats. The Probets reference provides no motivation to apply the teachings of Probets to the subject area of the presently claimed subject matter. Probets nowhere suggests the adoption of his technique to the field of the presently claimed subject matter, namely automated graphics conversion for efficient delivery to mobile devices. Further,

Probets fails to teach or suggest converting the graphic object data from the path format to a second format, the path format including path elements that are each associated with a fill style and define one or more polygon shapes at least partially filled with the associated fill style, the path elements collectively defining the graphic object. Probets further fails to teach or suggest the conversion including the steps of redefining the polygon shapes defined by the path elements as groups of triangles; and combining at least some of triangles in the groups of triangles into further polygon shapes that fall within predetermined complexity thresholds.

Therefore, it is submitted that claim 1 is patentable over Isaacs and Williams and Probets because none of Isaacs and Williams and Probets, whether taken alone or in combination, teach or suggest each and every feature recited in claim 1 according to the method recited by claim 1. Claims 3-10 depend, either directly or indirectly, from claim 1 and are patentable for the same reason. Claims 11, 14, and 17 recite similar features to claim 1 and are patentable for the same reason. Claim 16 depends from claim 14 and is patentable for the same reason.

In the Applicant's respectful submission, none of the cited references recognizes the problem addressed by the application; namely, the unfeasibility of playing flash files on mobile devices having limited bandwidth and/or processing power. Accordingly, one of ordinary skill in the art would not be motivated to combine and modify the references as suggested by the Examiner. Additionally, the Isaacs and Williams references provide teachings that teach away from each other and are not proper references for citation under 35 U.S.C. § 103(a). In the Applicant's respectful submission, one of ordinary skill in the art addressing the issue of playing flash files on mobile devices with limited bandwidth would not be inclined to modify the teachings of Isaacs in the manner suggested by the Examiner in view of Williams and Probets.

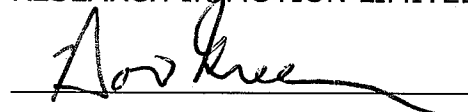
In view of the foregoing remarks and submissions, the Applicant respectfully requests reconsideration and submits that the present application is in condition for allowance. Should the Examiner have any questions in connection with the Applicant's

submissions, please contact the undersigned.

Respectfully Submitted,

RESEARCH IN MOTION LIMITED

By:

A handwritten signature in black ink, appearing to read "David J. Greer", is written over a horizontal line.

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